

General Observations

1.1. The outstanding impression we have gained is of an industry the progressive members of which are lively and full of new ideas, willing to experiment and not afraid to change their practices and procedures. This appreciation applies not only to those actually working within the industry but to the associated professions and other organisations. Mechanisation, industrialisation and the use of new techniques and materials are already changing long established methods and practices. Many of those engaged in the industry are initiating and actually participating in these changes and the professions and other bodies associated with it have given a tremendous amount of time and thought to the investigation of particular difficulties and to suggesting remedies. The country as a whole owes much to all this endeavour and the foresight of those taking part.

1.2. In spite of all this, the industry and the associated professions, looked at as a whole, do not appear to move forward with the speed and purpose of the active members to whom we have just referred. This is in our view largely due to the fact that the various sections of the industry have long acted independently. We consider that the most urgent problem which confronts the construction industry is the necessity of thinking and acting as a whole. It has come to regard itself as a series of different parts, roughly consisting of professional advisers, specialist advisers, contractors, specialist contractors and suppliers, and operatives of various crafts and skills. Existing practices and conventions in the professions, in the letting, form and management of contracts, and even the practice of regarding every job as an entirely separate entity, owe much to this approach. These attitudes and procedures must change if the country is to benefit from all the new ideas and new techniques which are already being used by many members of the industry. While we make suggestions for alterations in practices and procedures, these will be of no avail until those engaged in the industry themselves think and act together.

1.3. The construction industry has been the subject of many reports and investigations since the end of the war and has received plenty of information and advice and much to read. We have no intention of going over all this ground again : but for the convenience of those interested we have recorded a list of these reports and investigations, and some of the other publications which have appeared, in Appendix IV.

1.4. It is also not our intention to give statistics about the industry : these are well known. We have had, however, to remind ourselves that nearly a third of the labour force which the industry employs is engaged on repair and maintenance work and that nearly 90 per cent of the firms in the construction industry employ less than 20 persons. Most of the difficulties which arise in the placing and management of contracts relate to work of new construction ; our recommendations are of particular importance in that kind of work, but many of them are just as relevant to works of maintenance and repair and small jobs.

1.5. It is clear to us that existing contractual and professional conventions, designed in and for other days, do not allow the flexibility which is essential to an industry in the process of modernisation and will have to be reviewed. Our task is to promote efficiency and economy and whilst we have made suggestions we have not gone into details, as to do so might itself impose a new form of rigidity. Experiment, including trial and error, in many of these fields is essential and existing notions in relation to modes of procedure and public accountability must not be allowed to stand in the way. All those concerned will have to make the experiments and devise the methods which are most suitable, in the light of experience, to safeguard the interests of those involved and to secure efficiency and economy. There are no hard and fast rules by which all this can be achieved.

1.6. We are greatly in debt to the various bodies and organisations who in recent years have made their views known on many of the matters referred to in this Report. We are aware that a great deal has been done by the many representative organisations within the industry to develop and publicise modern practices in contractual and other matters. But these efforts require both co-ordination and help if they are to become fully effective, and we consider that this can best be achieved by action at the centre. Such work as that undertaken by National Joint Consultative Committee of Architects, Quantity Surveyors and Builders and similar groups needs to be encouraged and assisted and a still wider field of investigation covered and all this work must be co-ordinated. To succeed, however, the goodwill of the whole of the industry is essential.

1.7. We therefore recommend that the Ministry of Public Building and Works should at an early date confer with all the interests concerned to stimulate, co-ordinate, review and publicise progressive developments in relation to contractual and managerial practices and associated ideas; and to take such action as may be necessary to achieve this end and to cover the wider field of our recommendations. We regard the provision of a full time secretariat, with expert advice where appropriate, as essential to support the existing work, bring about the necessary co-ordination and extend the field of investigation and we consider that effective and generous financial support should be given by the Government to bring this about.

The Team in Design and Construction

The client

2.1. Building owners or developers are of many types, ranging from Government departments, nationalised industries, public authorities and large public companies, through organisations which, although experienced in other matters rarely require a new building, down to the private individual who proposes to build a house for himself and his family ; for easy reference we use the word "client" in referring to any or all of these.

The importance of time

2.2. Many of the difficulties and criticisms of present practices and procedures arise from the fact that those who find it necessary to spend money on construction work seldom spend enough time at the outset on making clear in their own minds exactly what they want or the programme of events required in order to achieve their objective ; nor is the importance of spending time in this way sufficiently emphasised by their professional advisers. Insufficient regard is paid to the importance or value of time and its proper use in all aspects of a project, from the client's original decision to build, through the design stages and up to final completion. Time well spent can mean time and money saved. Modern techniques of programming should be used to provide an overall discipline for all concerned.

2.3. It is natural that a client, having taken the decision to build, should wish to see work started on site at the earliest possible moment. It is the duty of those who advise him to make it clear that time spent beforehand in settling the details of the work required and in preparing a timetable of operations, from the availability of the site to the occupation of the completed building, is essential if value for money is to be assured and disputes leading to claims avoided. It is also necessary for the client to be told of the need to give the contractor time to make his own detailed arrangements after the contract has been let, and of the penalties of indecision and the cost of changes of mind once the final plans have been agreed. It would be to the benefit of the whole industry if the impact of claims was substantially reduced. We do not for one moment suggest that variations in themselves are necessarily wrong ; for, in fact, in many cases they can be essential to the interests of the work. On the other hand, there is no doubt that inadequate programming and information are the cause of many claims which could and should have been avoided ; such inefficiency leads to loss of productivity, waste and intense irritation.

Minor works

2.4. There is a wide range of construction in which the client deals not with professional advisers but directly with the contractor ; we have in mind a great part of private house-building and work—in the form of new building or maintenance—carried out by jobbing builders. It is just as important in this sphere

that a client should spend time in making his plans before he starts, and the building contractor, in his own interests as well as those of the client, should urge him to do so. It is particularly in this field that difficulties so often arise because of lack of forethought before work is commenced. It is unfortunate that there is no generally recognised standard of workmanship or competence which is known to the public at large and accepted by all builders. The National House-Builders Registration Council is, within its limited field, a step in the right direction, but we consider that further close consideration should be given to this subject, since the client should be entitled to expect work of a known and accepted standard when he embarks on any building or maintenance work.

The design team

2.5. A design and a programme of work are essential prerequisites to any construction project. For this purpose it is usual to seek the advice of an architect or engineer (or both) as the case may require ; and in many cases, even now, that is all the advice that is needed. But construction work is not as simple as it was. It is becoming increasingly more complicated and highly mechanised, and there are signs, as is shown by the practice of a number of professional advisers, that in many modern building and civil engineering projects the advice and collaboration of a professional team is called for from the outset. Although in general the architect or engineer will act as the leader (and it is the quality of co-operation within the team rather than the identity of its leader that is really important) it is essential in our view, and current experience bears us out in this respect, that the specialist consultants, some of whom may in fact also be specialist contractors, should be brought in at the earliest stage as full members of a design team. The professional man trained as a quantity surveyor should be a member of such a team in any event ; but if the client is to benefit from cost planning techniques, the quantity surveyor's presence is essential from the start.

The place of the contractor

2.6. There are also occasions when it is appropriate for the main contractor to be appointed and brought into the team before the design is finished and the programme of work finally settled. Many general building and civil engineering contractors have developed highly specialised techniques in design and construction which can usefully be taken into account by the designer in formulating his scheme and, design apart, site operations have come to involve the deployment of expensive machines and labour on a very large scale, so that their full and economic use has become crucial to the conduct of operations as a whole. To call in a contractor to a site on which a complicated scheme—the planning of which may have taken months or even years—is to be executed, and to expect him to be able to make himself thoroughly familiar with his task and to settle the right way in which to do it, when work must start within a few weeks or days, is unreasonable. Those who continue to regard design and construction as separate fields of endeavour are mistaken, and it is not out of place in this connection to recall the words used by Sir Harold Emmerson in paragraph 27 of his Survey of Problems before the Construction Industries* : " In no other important industry is the responsibility for design so far removed from the responsibility for production ".

*H.M.S.O., price 1s. 6d.

The professions

2.7. The development of this theme of co-operation in design and construction has led us to consider the practices and conventions of the professions concerned. How far is it possible under present conditions for comprehensive advice to be given? In the field of civil engineering there appears to be little difficulty. Those with professional qualifications can be engaged either by the client or by the contractor, and there are no professional restrictions affecting the employment of civil engineers in this way; possessing the same background, representatives of both sides are able to understand each other without difficulty and to their mutual benefit. As regards building we know that group practice of architects, engineers and quantity surveyors, in formal partnerships or ad hoc consortia, is already taking place. On the other hand, we understand that architects can be employed by contracting firms but are not permitted to become directors; while members of the Royal Institution of Chartered Surveyors in their capacity as quantity surveyors are not permitted to maintain other than an independent professional role. While we are not qualified to pronounce on the merits or otherwise of the various professional rules, it appears to us that a new and searching examination of the case for retaining restrictions is required.

2.8. The professional institutions and the organisations representing contractors are aware that there exists a wide range of common problems, in the relationships between members of the design and construction teams; from the client (who must not be regarded as being outside the team) through his advisers, to the contractor and the contractor's man on the site. Their concern has been shown by the recent establishment of a Communications Research Committee. This followed the completion of a Pilot Study on Communications in the Building Industry which was carried out in 1963 by the Tavistock Institute of Human Relations on behalf of the National Joint Consultative Committee of Architects, Quantity Surveyors and Builders*, and other studies within the institutions themselves. New relationships are essential if the kind of advice which is needed for modern building is to be made readily available, and we warmly welcome all the steps which are now being taken within the industry to solve the problems involved.

Training

2.9. In this connection it is important to remember that the training of those engaged in design and those engaged in building is, for the most part, quite different. There is, however, such a close and growing inter-relationship between the two that each could with advantage possess a working knowledge of many of the processes hitherto known only to the other. The establishment of University Chairs in Building and recent activity concerning architectural training show that both builders and the professions are aware of the practical difficulties that arise from these differences in approach.

Site management

2.10. Efforts to integrate design and to ensure that the work of construction is properly programmed will be largely nullified if site organisation is inadequate. Site agents, resident engineers and clerks of works are, without doubt, key figures on a building site, and the successful completion of any scheme may well

*N.J.C.C. Price 10s. Od.

depend upon their ability. Much more attention should be given to the status and training of site agents. They are not simply technicians for whom a craft and technical training alone is sufficient; they are men of whom competence is required also as managers and organisers. They must be capable of taking, and invested with power to take, important decisions with the full authority of their employer, and it is of the greatest importance that their recruitment and training should be based on a full recognition of their managerial function, and that those concerned should take the necessary steps to ensure that the type of man required is carefully selected and given adequate training.

2.11. The breaking down of the present dividing line between design and construction, and the recognition of the fact that contractors are sometimes able successfully to take part in the preparation of a project will mean that, in some cases, changes will have to be made in the time honoured procedures under which contracts are let. We now go on to discuss in detail against this background, how, when and in what manner contractors are appointed.

Appointing the Contractor

Competition

3.1. The placing of contracts on the basis of competitive tenders has had such a profound effect on existing practices and procedures that we have given considerable thought to its value, bearing in mind the great range in character and scope of contracts.

3.2. We know that although open competitive tendering has been criticised for a number of years it is still widely used, particularly for work done by local authorities. While competition has an important place, it can be made to play its part more effectively—both in the somewhat specialised conditions of public authority work and in the private sector—if a measure of selection in regard to the suitability of the contractor is adopted before tenders are invited. We believe that there are also occasions when even selective competitive tendering is not appropriate and direct negotiation with two or three contractors or even a single firm may be preferable.

Open and selective tendering

3.3. Many clients consider that a building can only be secured at the lowest possible cost if each job is advertised and all contractors are free to quote a price in competition without any prior enquiry regarding their competence to do the work. It is said that only free competition enables the suspicion of favouritism to be removed, no firm wishing to tender being eliminated until *after* tenders have been received. Thus the up and coming firm is given an opportunity to obtain contracts, and no firm wishing to tender is prevented from doing so.

3.4. The Simon Committee* disputed this. It held, in paragraph 37 of its report, that "low prices resulting from indiscriminate tendering lead to bad building and . . . lower the standards of honesty and craftsmanship in the industry". It also held that it was in the best interests of neither the client nor the industry that the only test should be that of price, and that "it is . . . a fundamental condition of good building that every contract shall be placed at a fair price with a responsible builder". These views have been supported by every other Committee and Working Party which has considered the matter over the last 20 years.

3.5. We agree with the Simon Committee. There are most powerful arguments for limiting invitations to tender to a realistic number of firms, all of whom are capable of executing the work in question to a recognised standard of competence; to rely on price alone without regard to competence and experience, the quality of materials and finish and the ability to comply with a programme is to ignore factors vital in securing value for money spent.

*Report on the Placing and Management of Building Contracts; 1944. H.M.S.O.

3.6. It has been suggested to us that there is no need to apply selective tendering to civil engineering work. We cannot see that any such distinction can be made: our reasons for supporting selective tendering are just as relevant in this work as elsewhere. Others have said that selective tendering is appropriate only to large construction contracts; that the smaller routine job should be regarded as within the capability of any contractor; and that open competition should therefore be used for this type of work. We are unconvinced. Work of any kind, however modest it may appear, can be mishandled and skill, competence and resources are of as much relative value in the small job as in the large. It is sometimes suggested that performance bonds can provide an adequate safeguard in the event of failure when open tendering is used. Although such bonds are not without value, the premiums add to the total cost to the client and offer insufficient recompense for the expense, inconvenience and loss of time which arise from the need to rectify badly executed or incomplete work.

Local authorities

3.7. Although the conclusions of the Simon Committee and other bodies on this subject have been accepted over a wide field—the Ministry of Public Building and Works has been practising selective tendering since 1939, and other Government departments and nationalised bodies have followed suit in more recent times—the system has not been adopted to anything like the same extent in the other field of public expenditure; *viz.*, local government. The reasons for this are probably that a selective system has been thought by some not to meet the needs of public accountability, and that the necessary changes have not been made in central and local government procedures.

Public accountability

3.8. On the question of public accountability, in addition to the need to demonstrate that the best bargain has been obtained for public money, much emphasis has always been laid on the need for local authorities so to deal with contractors as to avoid any suspicion of favouritism; it has been felt that only open competitive tendering could satisfy these two requirements. On the first, experience shows that it is fallacious to suggest that the lowest tender obtained in open competition will necessarily result in the lowest final cost. As regards favouritism, we do not accept that the position of local authorities is different from that of other public bodies. Some of these, including Government departments, have, as we have already indicated, used selective tendering for years, and we consider that procedures for local authorities can be devised which, if properly operated by elected representatives and their officials, are as proof against malpractices or the suspicion of them as other procedures involving public expenditure. It is always possible to challenge public authorities; and local authorities in particular, meeting as they do in public and doing their construction work in the public gaze, can easily be called upon to account for their procedures before as well as after contractors have carried out the work.

Standing Orders

3.9. The second difficulty, to which we referred in paragraph 3.7, arises from the fact that the necessary changes have not yet been made in central and local government procedures to pave the way for selective tendering. In England and Wales the Standing Orders of local authorities control, amongst other things, the way in which tenders are invited; but they cover much more than this—in fact they operate over a wide range of local authority activities. These Standing

Orders are based in the main on a Model issued in 1957 by the Ministry of Housing and Local Government for the guidance of local authorities. In a prefatory memorandum to this Model the view is expressed that " public notice of the intention of a local authority to enter into a contract and public invitation to tender were, in Section 266 of the Local Government Act of 1933 and Section 160 of the Local Government Act of 1939, clearly intended by Parliament generally to be the rule ". The memorandum goes on to say, " Model Standing Orders are so framed that any departure from this rule shall be exceptional, though it is recognised that in some instances there may be special circumstances which would make it reasonable for a local authority to modify this practice."

3.10. The Standing Orders of most local authorities, not surprisingly, reflect this bias towards open tendering, so that when other methods of contracting are desired it is often necessary to resort to the device of suspending Standing Orders in order that the particular transaction may be excepted from their operation ; this is undesirable and likely to diminish the respect in which these Orders are held. Clearly, when new methods of contracting are found by experience to be advisable there must be a positive provision in the Standing Orders to allow this.

3.11. Scottish authorities do not receive guidance in the form of Models and can therefore adopt the Standing Orders of their choice. Nevertheless the Scottish Local Government Act contains the same bias towards open tendering as its English equivalent.

3.12. In the light of the considerations set out above, we are convinced that it is high time, whatever steps may be necessary to achieve this, that the bias in favour of open tendering in current local authority Standing Orders should be removed. With this in mind we sent our letter to the Minister of Public Building and Works on 27th June, 1963 ; this is reproduced in Appendix III together with the Minister's reply. We are glad to note that the Ministers concerned have accepted our interim recommendation and that discussions on its implementation are now proceeding between the local authority associations and the Government departments concerned. We understand that these discussions will include the drawing up of general rules for the conduct of selective tendering, as a framework within which authorities large and small can operate so as to satisfy the requirements of public rectitude. Although it is the responsibility of the authorities and departments concerned, and not of this Committee, to draw up detailed selective tendering procedures, we feel that there are certain important points of which account should be taken when this is done and we refer to these in Chapter 4.

When to appoint

3.13. The feeling still persists that the main contractor can contribute little during the planning of a scheme and that he need not therefore be selected until this is complete. We have already said that we do not regard this view as valid, since increasing numbers of contractors are capable of playing a part in, for example, deciding on types of construction to be adopted and the programme to be followed, as well as performing their role as executants of the project. If advantage is to be taken of their skill and knowledge, the point in time during the overall process of planning and construction at which the appointment of

the contractor is made, becomes important. Jobs have been done in which the contractor has been appointed early to work as part of the team in developing the details of the project and establishing its cost; but, with conspicuous exceptions, public authorities have not to any extent made use of such arrangements. This may be due to fears that to do so would be contrary to established notions of public accountability. Although competition on the common basis of a fully detailed scheme is of necessity absent and the client cannot receive a firm estimate of cost until he has become in some degree committed to a particular contractor, we do not share these fears. Such transactions have not only been found to be advantageous in the field of private enterprise but have also been entered into by certain public bodies. If advantage is to be gained from early co-operation with the contractor we see no reason why public authorities generally need be deprived of the opportunity to make use of such methods by adherence to outmoded procedures.

3.14. Earlier selection need not preclude competition. There can for example be a "two stage" procedure, beginning with a preliminary competition based on an outline, in which the offers of selected firms are considered in the light of such factors as management and plant capacity, and the basis of their labour rates, prices and overheads. In the second stage the chosen contractor works as a member of the team, while details are developed and bills of quantities drawn up, and at the end of this time submits a more detailed price which if satisfactory becomes the formal contract sum. If a satisfactory price does not emerge and cannot be negotiated, the client can in the last resort select another contractor, although we should expect this to happen very seldom. Provision must of course be made in the conditions of the preliminary appointment to pay the original contractor for work done during the working up period should his final price prove unacceptable. This is one way in which an element of competition can be introduced and we know that others, including schemes based on bills of approximate quantities, exist. However, none of them is perfect and there is urgent need for further experiment and investigation into methods of securing early co-operation with the contractor on terms which are satisfactory to client and contractor alike.

3.15. Arrangements of this kind provide competition in a new sense, and also enable the contractor to join the team at a time which is precluded by existing procedures; this provides, in our view, undeniable advantages for the client in solving some of the failures in communication and understanding between designers and contractors and contractors and sub-contractors which have hampered the industry in recent years. The contractor appointed at an early stage will be able to develop a close relationship with all the other partners in the design and construction team before work begins on site, to plan the work properly and so ensure speedy and economical working while it is in progress. We recognise that there will be many jobs to which these procedures will not be appropriate; in these cases full preplanning before invitation of tenders can and should continue to be the aim, although (as we emphasise in Chapter 4), there is everything to be gained, even with a "normal" lump sum competitive contract, from a period of programming and consultation between all parties, after the letting of the contract, and before a start is made on site.

One job or a programme?

3.16. Our discussion of the early selection of contractors has so far been confined within the context of the individual job. It is a commonplace that

higher productivity and greater standardisation result in more economical prices, but each major product of the construction industry has commonly been regarded as unique and therefore normally to be designed, contracted for and constructed in isolation. That this may not be either ideal or inevitable is now being realised, since to treat each contract as a separate entity, for the purpose of inviting tenders, appointing a contractor, setting up management and construction teams, organising labour and materials supply lines and the acquisition or hiring of plant, is to overlook social and economic factors important in making the best use of the industry's human and material resources.

3.17. The construction industry has been criticised for its casual methods of employing labour. Its employees can more easily be offered continuous employment if firms are able to count on work for longer than the periods of the contracts on which they are working or which they have recently obtained. By the same token, the use of mechanical equipment to speed up operations and reduce the amount of labour required on site will best be encouraged if contractors have a programme of further work on which the plant can be employed. At a time when the full and efficient use of labour is becoming a governing factor in the economy of the construction industries, the very real waste involved in allowing the knowledge, expertise and team spirit built up during a major project to be dispersed as soon as the particular job is finished is very much to be deplored.

Serial contracting

3.18. It is with these considerations in mind that certain public authorities have evolved a system whereby a contractor who is successful in an initial competition is assured, subject to his giving satisfactory service, of a prescribed programme of further suitable work on agreed terms, the rates and prices for the first job being used as the basis for the remainder of the programme. This system offers incentives to firms to maintain a high standard of workmanship and co-operation, and produces savings in time by eliminating lengthy pre-contract procedures for each project in a programme. Serial programmes also enable teams of men and plant, organised for particular services on different schemes, to be moved on to successive jobs without the need to break up the team. It is desirable but not essential that jobs to be programmed should be exactly similar, since even apparently diverse jobs often have many elements in common and can be linked together in a programme. Insofar as individual local and other authorities may consider their own programmes of work are too small to be treated in this way, recent proposals aimed at assisting them to join together, in making their arrangements so as to get the benefit of larger contracts and more continuous working, are of particular importance. While we are aware that there will be legal and administrative problems which will have to be settled, we are sure that serial contracting has much to offer.

3.19. It has been suggested that the widespread adoption of serial tendering will tend to reduce the number of competitions held, and that the size of programmes will be such as to eliminate all but the very largest contractors. Small firms can join together in consortia where sizeable programmes are at stake; but the extent of the work now facing the construction industry is so great that no efficient firm can possibly have any real doubt as to its ability to obtain work. Serial tendering can be operated successfully where traditional methods of

construction are used, but its advantages are enhanced if building programmes are linked with the large scale production of factory-made components.

Industrialisation

3.20. The aim must be to bring to construction the economy and efficiency of the production line by dimensional co-ordination and standardisation, by completing as many processes as possible off site, away from weather hazards, and by reducing the amount of site labour necessary for final construction and assembly. We see no reason to fear that standardisation and industrialisation, in achieving these aims, need lead at the same time to a deterioration in standards of quality or design.

Negotiation

3.21. These developments are in effect refinements of the practice of selective tendering. We have also considered whether in suitable cases all competition can be dispensed with and contractors chosen by direct negotiation on the basis of experience, knowledge and repute.

3.22. The term "negotiated contract" is very loosely used, covering arrangements ranging from the fully pre-planned scheme for which one contractor is invited to tender for the building work, perhaps for a lump sum, to the type of package deal in which a single firm is responsible for the design and construction of a scheme from beginning to end. We know there are many cases of long standing and highly satisfactory relationships between clients and contractors based on mutual confidence and that such relationships can lead to speedy, economical and skilful satisfaction of the client's requirements without resort to conventional competition. The private client is free to decide whether his interest will best be served by negotiation; the public client, however, is obliged to demonstrate that some positive advantage will accrue to the public by the elimination of competition and that he is not showing undue favouritism, overlooking the merits of other qualified contractors, or failing to take advantage of market conditions at a given time.

Conclusion

3.23. While we are sure that competition still has an important part to play, particularly in the field of public expenditure, we consider that other methods including negotiation can be used with advantage. Our emphasis is on the need for flexibility and freedom of choice; not "is it orthodox?" but "is it the best solution?" should be the test. Concern to demonstrate that money from the public purse has been wisely spent will continue to be an inevitable and healthy necessity amongst all public authorities; but it must be more widely recognised, by elected representatives and officials alike, that rigid adherence to procedures sanctified by long tradition is not necessarily the best way to take full advantage of modern techniques, industrialisation and modernisation and that the "best buy" is more likely to result from the wise use of available modern methods.

Some Notes on Procedures

4.1. The procedures now in use by which tenders are invited and accepted and contractors appointed have been much criticised. A number of the points which we discuss below are dealt with in two documents published by the National Joint Consultative Committee of Architects, Quantity Surveyors and Builders—the Code of Procedure for Selective Tendering (1959) (1) and the Guide to Procedure for Building Project Management (1963) (2); and for Scotland, in the publication entitled "Competitive Tendering for Building Works in Scotland" (3). Local authority practices are discussed at some length in the Study of Building Contracts of Local Authorities published by the Royal Institute of Public Administration in 1958 (4). The advice given in these publications has not been following in practice as widely as it might have been. We wish they were more widely known and used. We have already said that any system of selective tendering must be so used as to be visibly fair, and we now draw attention to certain matters which we regard as important in maintaining this approach.

The Approved List

4.2. The intention of a public authority to compile an approved list of firms, from which a short list will be chosen for each particular project, should be announced by public advertisement, and public announcements of the existence of the list should be repeated at intervals, coupled with an invitation to firms not already included to apply for admission. By this means, firms which attain the required standard will be able to join the list from which a choice is made. It is important that conditions of entry should not discourage the admission of progressive contractors, for it must not be forgotten that many firms prominent in the industry today have risen from modest beginnings. Competition from newcomers should help to banish any tendency to complacency which may manifest itself among those already established as members of approved lists. By the same token firms which prove unsatisfactory in practice must not be permitted to remain on the list of approved contractors.

Importance of regular review

4.3. It is important that contractors should be informed, on enquiry, whether or not they are included in an approved list. While protests will doubtless be received from time to time from those who fail to secure inclusion we consider that for the reasons we have given in Chapter 3 it is essential that sound judgment should be exercised in compiling the list. Public authorities' actions are always open to criticism, and rightly so. But if the means by which decisions are taken

(1) N.J.C.C., Price 1s. 0d. (Post free).

(2) N.J.C.C., Price 1s. 0d. (Post free).

(3) Published (1962) by the Joint Standing Committee of Architects, Surveyors and Building Contractors in Scotland, Price 1s. 0d.

(4) Studies of Administrative Methods Number Seven, R.I.P.A., Price 5s. 0d.

are fair and reasonable, then no authority need fear attack or refrain from actions in deference to it.

Ad hoc Approved Lists

4.4. Where public authorities do not maintain formal approved lists of contractors, selection can be achieved by advertising in the press for contractors. The intention to invite tenders for a contract, of which the main particulars are given, is disclosed and interested contractors are invited to submit applications for permission to tender. At the same time they are asked to provide evidence of their capacity to carry out the work to the standard required. In this way a list of suitable contractors is obtained from whom a selection can be made.

Preliminary invitation to tender

4.5. A similar procedure may be advisable in some cases even where formal approved lists are maintained, preliminary enquiries as to willingness to tender being issued to advise firms of impending work and to avoid the issue of invitations to contractors who are not in a position to tender. In this connection we agree with the recommendation in paragraph 39 of the Report of the Joint Committee on Tendering Procedure* that contractors so advised "should be informed that refusal of the invitation will not prejudice their opportunities of tendering on future occasions".

The Short List

4.6. In some of the publications to which we have referred and elsewhere it is suggested that scales should be laid down to fix the number of contractors to be invited to tender for contracts of various sizes. While such a limitation might avoid the wasteful use of contractors' resources, we are not in favour of rigidity and would much prefer that the authorities concerned should exercise their discretion. It is important that scales should not be so rigidly adhered to that firms of appropriate standing who are particularly keen to tender for certain jobs are precluded from doing so.

Opportunities to tender

4.7. It is obvious that every firm on the approved list will not be invited to tender for every contract of the appropriate size, but authorities must ensure that all firms on the approved list are, as far as practicable, given the opportunity to tender over a period.

Tendering period

4.8. The Code of Procedure for Selective Tendering suggests that "except in special circumstances, four weeks should be allowed for the preparation of tenders".

4.9. A tenderer who has insufficient time in which to prepare a realistic offer will tend to cover himself against possibly relevant but uncertain factors which he has felt unable to assess accurately in the time allowed. This cannot be in the client's interest. We do not wish to prescribe any set period for tendering, since the time allowed should be governed by the extent and complexity of the project; but we consider four weeks is a minimum for other than minor works,

*N.J.C.C., Price 6d.

and many projects will require longer. The proper allocation of time to tendering is of advantage to all concerned, and to cut this must not be regarded as a useful means of reducing the total time required from inception to completion of a project.

Alternative offers

4.10. Where competition takes place among selected firms of known and similar standing, price is generally accepted as the criterion for identifying the successful contractor; but there are occasions on which a firm invited to tender on the basis of a fully designed scheme also submits a feasible alternative. When this happens, a technical assessment of the alternative as well as consideration of its impact on time and cost is necessary. It has been common practice to disregard such alternatives, on the ground that to consider them would cut across the principle of parity of tendering. We doubt the wisdom of this practice. If a firm has the initiative to produce a novel and possibly better technical solution, fully documented, to a problem we cannot see why this should be ignored or disclosed to rival tenderers. Such alternatives should be assessed on their own merits.

The need for prompt acceptance or rejection of tenders

4.11. Once tenders have been received it is important that all tenderers should be notified as early as possible whether or not they have been successful. Unless this is done, it is liable to cause difficulty for a contractor tendering for other work, in assessing his resources. A common practice in the building industry where straightforward work is concerned is to decline all but the three lowest tenders within three days of their receipt; at the same time, the two runners-up are told that although their tenders do not appear to be the most favourable their bills of quantities will be sent for if required; and the bills of the lowest tenderer are called for. Thus every tenderer is made aware very quickly after submitting his tender how he stands.

Submission of priced bills of quantities

4.12. While procedures on these lines are to be welcomed, there is still room for quicker decisions. At present, priced bills of quantities for building work are generally called for from the lowest tenderer only. It would lead to a further and welcome saving of time if all tenders were accompanied by priced bills of quantities. We see no reason why this should not be done. We know that our view is not held by a number of bodies whose opinions we respect but we do not share their fears that its acceptance would lead to unfairness; indeed it would help to ensure that all tenders are bona fide. It is, of course, normal practice in Scotland and in civil engineering.

Notification of results

4.13. Once the contract has been let, all tenderers should be supplied with lists of the firms who tendered and lists of tender prices.

Pre-planning before physical commencement

4.14. The period between the appointment of a contractor and the commencement of work on site is critical in the development of a project. In this period the contractor has to organise his resources and, as we have already pointed out, haste at this stage can ruin the prospect of a smooth, well-planned and speedy operation. Time spent at this juncture does not mean that the job as a whole

will take longer; indeed, difficulties which might lead to costly delays after work has commenced can be thought out beforehand and avoided.

4.15. If, for one reason or another, an early start on site is necessary before the details of the main structure of a building are settled, then it is better that a preliminary contract for site clearance, preparation and/or foundation works should be let and carried out while arrangements for placing the main contract are being made.

Public authorities

4.16. Public authorities are said to be particularly slow in notifying the results of tenders and to show undue haste in expecting a physical start once the contract has been let. These difficulties may to some extent stem from the current loan sanction procedures of Government departments. It should be possible, in all save the most exceptional cases, for public authorities to accept tenders on the basis of approved estimates in the knowledge that loan sanction will follow automatically. Approval to proceed could be given on the basis of estimates prepared at working drawing stage, or earlier for work where cost yardsticks can be evolved and used; and further reference to Government departments should not be required unless tenders exceed the cost limits or estimates by more than a given percentage.

Forward budgeting

4.17. It is as important in the public field as elsewhere that scarce design skills should not be wasted as a result of the abandonment of schemes for lack of finance and that public projects should be carried through from beginning to end in a businesslike way without excessive haste in years of plenty or slowing down in lean years. This means that finance must be made available on the basis of a programme over a period of years.

4.18. While these principles are realised in many Government departments and new forward budgeting procedures have been adopted for a range of work in the public sector, it yet remains to apply them over the whole field of public works. The idea that these can stop and start in relation to the end of the financial year or any other arbitrary date is impracticable and wasteful of public money.

Building regulations

4.19. We emphasise in this Report that whenever possible the planning and execution of building projects should be based on agreed comprehensible conditions and standards so that misunderstandings about the rights, obligations and responsibilities of any participant in the process can be minimised.

4.20. Building byelaws are part of the building process. They are made by individual local authorities based on Model Byelaws issued for guidance by the Ministry of Housing and Local Government. These need not be adhered to by local authorities in detail, with the result that any person planning or designing a building in a particular locality is obliged to conform to local byelaws which may differ materially from those in force elsewhere. This situation contributes to the delays and uncertainties about which complaints are made by those who wish to build.

4.21. The Public Health Act of 1961 empowered the Ministry of Housing and Local Government (these powers have now been transferred to the Ministry of Public Building and Works) to make building regulations which will have effect over England and Wales, excluding London and subject to certain powers of relaxation in individual localities under special circumstances. We welcome this change. Nevertheless the building regulations which are to be prepared as a result of this legislation will relate only to those matters which are covered by the existing byelaws. They will not refer to electrical and water installations, the means of escape in case of fire and a number of other matters which are now dealt with in different regulations and Acts of Parliament and often administered by different authorities. In other words there will only be limited standardisation over the country as a whole and many of the matters essential to design and construction will remain separately provided for.

4.22. Building Standards Regulations have already been made and laid before Parliament by the Secretary of State for Scotland.⁽¹⁾ These Regulations, which will come into operation in June 1964, will apply throughout Scotland in replacement of local building byelaws, and will cover most of the matters referred to above with the exception of water supply.

4.23. The recent Report of the Working Party on Building and Civil Engineering Procedure in Scotland⁽²⁾ has recommended that Building Standards Regulations should cover all relevant matters, and that Regulations of this kind should apply to the whole of the United Kingdom. We realise that legislation will be required to achieve this, but we feel most strongly that all the standards which apply to the construction of a building anywhere in England, Scotland or Wales should be treated comprehensively, and urge that steps toward this end be taken at the earliest possible moment.

(1) S.I. 1963 No. 1897 (S.102) laid before Parliament on 11th December, 1963, to come into operation on 15th June, 1964.

(2) H.M.S.O., Price 3s. Od.

Conditions of Contract

5.1. The forms of conditions of contract most widely used in the construction industries are:—

- (i) *For building work.* The "R.I.B.A. form" issued under the joint sanction of the Royal Institute of British Architects, the National Federation of Building Trades Employers, the Royal Institution of Chartered Surveyors, and the five principal bodies representing local authorities: there are two forms, for use when bills of quantities do and do not form part of the contract respectively. An adapted edition has been prepared in order to meet the requirements of local authorities.
- (ii) *For civil engineering work.* The "I.C.E. form", issued under the auspices of the Institution of Civil Engineers, the Association of Consulting Engineers, and the Federation of Civil Engineering Contractors.
- (iii) *For Government work, building and civil engineering.* Form CCC/Wks/1 prepared by Government departments and used for many direct Government contracts; although the Ministry of Transport uses the I.C.E. form.

There are in addition a variety of special forms designed for particular purposes; and for building work, there are separate conditions used in Scotland only. The latter are known as the Scottish General Conditions of Contract and the main differences between them and the R.I.B.A. conditions are discussed in the Report of the Working Party on Building and Civil Engineering Procedure in Scotland.

The need for common forms

5.2. A multiplicity of conditions of contract for use in circumstances which vary only to a limited degree is not in our view conducive to a ready understanding between the parties to a contract of their respective rights and obligations, and causes much work in checking variants and making adjustments. Many have expressed views in favour of a single common form of contract for all building and civil engineering work, but little seems to have been done to achieve this object. We are aware of the difficulties, not least in the task of compromise in regard to entrenched points of view, but we also know that in the various forms now in use different words are sometimes used to express the same general intent. We believe that a common form is both possible and practicable, given goodwill, and would well repay the effort of achieving it.

The first step: one form for building and one for civil engineering

5.3. As a first step the differences which now appear in the current conditions of contract used in building and civil engineering respectively might be discussed, and common forms acceptable to all concerned agreed in each of these spheres. We understand that the I.C.E. conditions are shortly to be reviewed and this will provide an opportunity for a start to be made. The Government departments concerned should in our view be parties to these discussions so that they

can set an example by making use of the agreed conditions. We recognise that some special conditions may be required for Scotland because of differences in the law, and that public authorities may need some provisions not required by private clients; but all these requirements could be met, in our view, by supplementary conditions set out as agreed alternatives or additions to a common form.

The final step: one common form

5.4. Once this limited aim has been achieved steps should be taken to agree a joint form for building and civil engineering conditions of contract. We warmly support the recommendation to this effect contained in the report of the Working Party on Building and Civil Engineering Procedure in Scotland.

Sub-contracts

5.5. We refer in Chapter 7 to the desirability of the widespread use of standard forms of sub-contract in order to foster mutual understanding of rights and responsibilities at all points in building operations. It follows that the preparation, revision and unification wherever possible of sub-contract conditions, should proceed concurrently with discussions on main contract conditions since both should be on the same basis.

The private customer

5.6. We have dealt in this Chapter with the need for common conditions of contract for various purposes. There remains, however, one field in which forms of contract are not in general use; we refer to the private field in which a client employs a contractor directly, without the intervention of an architect or other professional advisers, to build a house or carry out work of a jobbing character. In order to secure the benefits of mutual understanding and co-operation, it is essential that each participant in any project, no matter what its size, should be clearly aware of his duties and his rights. Forms of contract do exist for simple work, but much of it is still carried out without a written contract at all. In addition therefore to the recommendation for the drawing up of recognised standards of workmanship, and competence in the execution of minor work which we make in Chapter 2, we urge representatives of both clients and builders to publicise and encourage the use of standard conditions for this work which lay down the rights and obligations of both sides.

Bills of Quantities

6.1. We have received more advice on this subject than on any other we have considered. There exist in the industry widely divergent views about the present form and content of bills of quantities, the need for and possibility of simplification of these documents, and the value and extent of the additional uses to which the information they contain can be put.

Simplification

6.2. While there are some who advocate simplification on a major scale and express considerable doubt as to the value of the great amount of detail which now goes into bills, there is also evidence that builders, in particular, regard bills of quantities as essential and do not wish to see, in present conditions, any diminution in their size or in the range of information they contain.

Function in the tendering process

6.3. In present circumstances bills of quantities are essential documents in the tendering process. Having said this, and provided that their suitability for this function is not impaired and the job of the estimator made more difficult, we do not doubt that simplification is desirable: if for no other reason, than that it would reduce the time taken to compile and price the bills. Although some degree of simplification can no doubt be achieved by the elimination, for example, of small labour-only items and the like, this can amount to little more than tinkering with the problem, and a more significant result by way of simplification is only likely to be achieved through forethought on the part of the architect and his colleagues in the design team to ensure that really adequate supporting information in the form of drawings and specifications is provided to tenderers as a matter of course. If this were done, we are assured that builders would feel more able to dispense with the great detail in bills of quantities which they now regard as essential for their own protection.

6.4. It is from reforms of this kind that significant improvements in the bills themselves are likely to spring. It has also been suggested to us that although their primary function is to enable the builder to arrive at a price, there should be a relationship between the layout and presentation of the details in the bills and the programming by builders of materials, labour targets, etc. This is another aspect which indicates that modifications may be desirable.

Cost analysis and cost planning: the role of the quantity surveyor

6.5. Although bills of quantities are devised primarily for tendering and allied purposes, this should not be their only function. Their preparation necessarily involves the extraction from drawings and specifications of a large volume of precisely detailed information about every feature of a building. It is important that, to meet the need for close and scientific analysis of costs, every piece of useful information should be extracted from this material. Equally, the skill of the quantity surveyor must not be limited to the functions

of a measurer and valuer alone; he should be regarded as the "economist" of the construction industry.

6.6. The comprehensive information collected so laboriously for the formulation of bills and priced item by item by tenderers is the raw material from which the accurate prediction of costs will become possible; prediction not only of cost per foot super, per bed in hospitals, per place in schools and so on, but also of the cost of various functional units or elements of construction and specialist services, and their relationship to the costs of building as a whole. The value of such information, kept up to date by a constant flow or feed-back of information relating one contract to another is obvious. Used intelligently it can provide the client with yardsticks of value for money which can assist in eliminating the uncertainty as to costs which has in the past troubled clients in attempting to make rational decisions and to carry out forward budgeting and planning of their projects; the importance of such information to architects and engineers themselves can scarcely be exaggerated.

6.7. The service rendered by accurate and up to date cost information to the client is great, no matter what contractual methods he uses. But it is quite apparent that where newer methods of the kind we have discussed in Chapter 3 are put into use, cost information, gathered as a result of experience over a period, can serve to eliminate much of the uncertainty which has been considered to give rise to difficulties in terms of public accountability in the public sector. We have expressed the view already that the interests of productivity, efficiency and economy in the construction industry will be well served by a willingness on the part of public authorities and others to consider the use of new methods of contracting where these are appropriate. The function of the quantity surveyor here is a vital one; it has been transformed in recent years, and the computer is likely to be an important aid, particularly where industrialised techniques are involved. By the proper use of cost analysis, much can be done to assist clients and their representatives to understand the cost implications of alternatives.

6.8. It is already well known that the quantity surveyor will be faced in the future with demands for advice in directions which may in the past have been regarded as outside the scope of his normal activities. The problems with which this situation will present the profession are not simple. The collection of basic data, its deployment for various purposes, the feed-back of information and its wide dissemination; and, most important of all, the constant need to remember that savings must accrue to the client to offset the increased cost of acquiring and making use of knowledge: these present difficulties which must be overcome.

6.9. It is not for a Committee such as ours to resolve these difficulties in detail. The Royal Institution of Chartered Surveyors has taken the initiative by setting up a Committee to examine the form and content of bills of quantities in the context of tendering and valuation procedures and also the use of the material contained in them for cost planning and analysis. We are glad that this has been done, and we hope that the Committee will call into consultation, at the earliest possible stage in their deliberations, representatives of the architects, engineers, builders and, as necessary, the specialists, all of whom must collaborate closely with the quantity surveyor if the construction industry as a whole is to have the information so urgently needed.

Sub-Contractors

7.1. A substantial part of most building contracts and a proportion of civil engineering work is carried out by sub-contractors. Their work is in many cases of a specialised nature. Some of these sub-contractors are chosen by the main contractor and some are chosen by the client, advised by his architect or engineer, and nominated by him for appointment by the main contractor. However they are appointed, the presence of a number of sub-contractors necessitates a clear understanding of where authority and responsibility lie, and effective communication of information and decisions.

7.2. In considering the problems which affect sub-contractors we again find it necessary to emphasise the idea of a building as the product of a team rather than of a number of individuals or firms working without cohesion. If this idea is to have meaning in practice, it is essential that sub-contractors, nominated or otherwise, should be closely integrated into a construction team from the time they are appointed. If this is done many of the difficulties to which we now refer would be avoided.

Nomination

7.3. Nominated sub-contractors are often chosen before the main contractor himself, the latter being required on appointment to enter into a contract with the nominee, subject to a right of "reasonable objection".

7.4. The nomination of specialists usually takes place for one or more of three main reasons. The first is that certain items such as engineering services, elements requiring special constructional techniques or special finishings and fittings, are fundamental to the design of the building as a whole. The second is the saving of time which can be made when very long planning or fabrication periods are required for certain types of equipment or components. The third is because of the quality which may be required for reasons of maintenance and/or operating costs when the client or his advisors may wish to place the work with one of a limited number of specialists in whom they have confidence based on previous experience.

Position of the main contractor

7.5. We agree that selection of specialists in the circumstances described above is right. Otherwise, as a general principle the main contractor should be responsible, subject of course to specification, for the appointment of as many as possible of the sub-contractors who are to work under his authority. The insertion into bills of quantities of unnecessary provisional sums and prime cost items through, for example, incomplete knowledge of requirements at the time when tender documents are prepared, should be avoided.

7.6. If the client, his architect or engineer, consider the nature of a project to be such as to render necessary the early nomination of a very considerable

proportion of the specialists involved, then we suggest that this is one of the occasions on which the main contractor himself should join the team at an early stage. It is not out of place here to express the view that main contractors must show readiness to assume more active responsibility as leaders of the production team.

Tendering procedure

7.7. When parts of the work covered by a main contract are sub-let—that is, sub-traded—by the main contractor himself, the work concerned having been fully described in the bills of quantities and priced by the main contractor, it has been suggested to us that he may be tempted to bring pressure to bear upon the sub-trader to increase to the maximum the profit accruing to himself from the works sub-let. We do not see how we can legislate for an area in which the main contractor must exercise his commercial judgment in buying goods or services. But in these matters we should expect him to do as he would be done by. It follows from this that tenderers should be informed, at the time of invitation, of the programme for the works in which they will be involved or when delivery will be required, and that their quotations should in fairness to all parties be subject to a time limit for acceptance.

7.8. The same risk can occur where main contractors are instructed to invite tenders from a short list of approved sub-contractors for prime cost items and the main contractor receives the tenders prior to the client's adjudication. This difficulty can be overcome by arranging for tenders to be returned to the client himself or for the client to receive simultaneously copies of all tenders.

Labour-only sub-contracting

7.9. Our attention has been drawn to the practice of labour-only sub-contracting, which we understand has been quite widely followed in recent years. We consider that such difficulties as are said to have sprung from its use have in fact been due to the failure on the part of those using it to adopt the safeguards which they apply to other contractor/sub-contractor relationships. In this sphere as in others the main contractor must be in a position to exert proper control over his sub-contractors' work and to assure himself as to its quality. We suggest that main contractors, in seeking the architect's approval to the appointment of sub-contractors, should act similarly in respect of labour-only sub-contractors.

Notification of results

7.10. We have commented, in the context of the selection of main contractors, on the difficulties which arise from the failure of clients' architects/engineers to notify tenderers at the earliest possible moment of the results of the competition in which they have participated. This applies with equal force to the selection of sub-contractors, whether the responsibility lies with the client's architect/engineer, or with the main contractor.

Sub-contract conditions

7.11. The conditions of contract which govern the relationship between main and sub-contractor are not free from contention, and while we do not wish to prescribe the conditions which should operate—this being the business of the Associations representing those directly concerned—there are certain principles which we consider to be worth stating.

7.12. It is essential that whether sub-contractors are nominated or not, they should know, when they are invited to tender, what will be the conditions of the contract into which they will be expected to enter with the main contractor. This means that if a sub-contractor is selected before his main contractor, then the client's own contract with his main contractor will have to contain stipulations as to the conditions of the contract into which the latter in turn will enter with the chosen sub-contractor. Similarly, main contractors inviting tenders from sub-contractors should make their own intentions clear as to the form of sub-contract which they will use so that no misunderstanding will occur.

Standard forms

7.13. This end is best and most simply achieved by the general use of standard forms of sub-contract; some such forms do exist, having been agreed between organisations representing both main and sub-contractors. Unhappily, however, they are not used widely enough, and there is a regrettable tendency for some contracting firms to seek to impose their own form of sub-contract. We do not like this practice and feel strongly that it does not contribute to efficiency and mutual co-operation. Sub-contractors, for their part, should also be expected to tender on standard conditions of estimate.

Direct contracts between client and specialist

7.14. There are circumstances in which a client's interests may be served by a direct contract between himself and a specialist; such specialist services as structural steelwork or extensive mechanical or electrical services, which form by themselves a substantial part of a scheme, are examples of this. The architect or engineer must of course take full responsibility for the control of the works carried out under such contracts and for any interference with the work of the main contractor or of other specialists which may arise.

Time for preparation

7.15. We wish to make only one further comment on the work of sub-contractors, and this is a point which we have already made in regard to the main contractor. Just as the latter cannot be expected to appear on site on the day on which he is informed of his appointment, so a sub-contractor must have adequate time in which to organise after being awarded a contract.

Payment by main contractor

7.16. In financial matters, as in others, the sub-contractor is entitled to the same consideration as is owed by the client to the main contractor. This means that sub-contractors should receive regular payment for their work as certified; this should not be delayed beyond the period specified in the sub-contract. We welcome the acceptance of this view which is implicit in the guidance on this matter to be found in paragraph 13 of the Guide to Procedure on Building Project Management.

Payment by client

7.17. The point has been put to us that in the event of failure by a main contractor to pass on payments made to him by his client for works carried out by sub-contractors, the sub-contractors should be paid by the client himself and

the money deducted from payments later due to the main contractor; there is an optional provision along these lines in the 1963 Edition of the R.I.B.A. conditions of contract. We can only express the hope that, where appropriate, architects will exercise their right to certify for direct payment.

Representation of sub-contractors

7.18. We have discussed in this chapter some of the points of difficulty between main and sub-contractors. We have no wish to impose solutions, since it is for those concerned to agree among themselves. As a first step, however, we strongly recommend that the organisations which represent sub-contractors should be granted membership of the national consultative bodies which exist in the building and civil engineering field.

Firm Price Contracts

8.1. In the sense in which we discuss this matter, a firm price contract is one which contains no fluctuations clause in respect of the cost of materials or labour.

8.2. There is a general view in the construction industry that, wherever possible, contracts should be let on a firm price basis. We support this although we are aware that difficulties arise through an imperfect understanding of the essential prerequisites. These difficulties have led to a reluctance on the part of contractors to quote firm prices, and although the reasons for this reluctance are well known, they are too often ignored by clients and their professional advisers. We have therefore thought it advisable to outline below some of the difficulties and the steps which might be taken to deal with them.

Preplanning

8.3. The more that is known of what is involved in any project, the less will be the degree of uncertainty against which tenderers will be obliged to make provision; this applies to all construction work but is of particular importance where contractors are being asked to quote firm prices. Only if the work has been settled in all its critical details is it reasonable to expect a contractor to tender for a firm price and a fixed period.

Contract period

8.4. It is today common Government practice to invite tenders on a firm price basis where the contract period is not to exceed two years. Some of the evidence we have received has suggested that this period is too long, and that eighteen months or even a year should be regarded as a limit; and conversely, three years had been held out to us as not excessive. While we do not wish to specify any fixed period as suitable in any circumstances for work of any type, we certainly do not regard two years as excessive. We have already expressed our support for firm price contracts; the reduction of the accepted limit below two years would merely have the effect of removing from the field the majority of large construction projects.

Time limit for acceptance

8.5. In quoting a firm price the contractor is entitled to know the limits of his responsibility. For this reason, the period of time during which a tender will remain open for acceptance should be limited and clearly stated. Since it will be in their own interests to do so, clients will be encouraged to accept tenders promptly.

Materials

8.6. A good deal of the reluctance found among main contractors to quote firm prices without fluctuations clauses in respect of materials is due to the inability or unwillingness of some merchants and suppliers to quote firm prices

for their products. Because of this, contractors feel they are called upon to bear a disproportionate part of the burden imposed by rising prices for freight, fuel and materials.

8.7. Quotations at "prices ruling at date of delivery" contain uncertainties resulting in over-insurance by the tenderers who depend upon them. All commercial transactions contain an element of risk, and we see no reason why producers of raw materials, the nationalised fuel and transport industries and others should not agree, when asked, to quote firm prices for delivery over a given period.

Labour

8.8. As regards labour costs, we welcome the long-term wages settlement which has recently been negotiated and the indications that the trend towards settlements for a period of years will continue as a valuable contribution to the stabilisation of costs within the industry.

8.9. We are sure that firm prices are healthy. Every member of the building team—from raw material manufacturer to main contractor and, indeed, client—can play his part in bringing this about if he is prepared to take steps to secure stability within his own sphere. This means for the client and his advisers the preplanning of critical details before asking for a firm price; and for the manufacturer and supplier a willingness to quote firm prices when reasonable delivery periods are stipulated.

Payments, Retentions and Incentives

The present system

9.1. The procedure under which money passes from client to contractor during the progress of construction is well known and we need only say by way of description that, in general terms, payments are made to contractors at monthly or other agreed intervals on the basis of work done as certified by the appropriate officer. During the course of the work certain percentages are withheld from these payments in order to build up a "retention fund", the purpose of which is to encourage the contractor to fulfil his obligations during and after the completion of the works and to provide some form of insurance to the client should he fail to do so. Part of the accumulated retention fund is released on practical completion of the work and the remainder (subject to the agreement of the final account) at the end of the defects liability period—for building usually six months, and for civil engineering twelve months, from practical completion. The financial relationship between main contractors and their sub-contractors follows the same general line.

9.2. The operation of this system is not always smooth. Payments to the main contractor by the client are often slow and uneven, with consequential delays in payments to suppliers and sub-contractors. This has an adverse effect on the efficiency and stability of the whole industry. The way in which amounts due are assessed and paid could be improved, with benefit in the long run not only to those who are paid but also to those who pay. What is needed is an agreed procedure to ensure that payments are made regularly and promptly.

9.3. Amounts due during the progress of building works are commonly certified at monthly intervals on the basis of a valuation of work done up to and including a date which may (in the case of work carried out, for example, under the R.I.B.A. conditions of contract) be not more than seven days before the date of the certificate. Once the certificate has been issued, payment should take place within, as a rule, fourteen days, so that contractors should not normally have to wait more than twenty-one days in all from the completion of a period to payment.

Improving the flow

9.4. In practice, valuation, certification and the honouring of certificates are sometimes late, and in consequence contractors are obliged to use their own financial resources for longer than should be necessary. There is a tendency among some main contractors to adopt the practice of not paying under sub-contracts until they are themselves paid, with the result that the delays from which they suffer are repeated in their own dealings with their sub-contractors.

9.5. The principal aim of interim payments is to pay contractors for the work already done on the site. For this to be effective, payments must be

made without delay. There appears to be a failure in some cases to recognise the importance of prompt payment and to act accordingly; the remedy lies in the need to honour contract conditions, but the following practices might make things easier:—

- (a) The date of certification does not always suit the client's accounting or other procedures. It would be simple for the client's representative to establish, before inviting tenders, the date in each period which would best fit in with his client's arrangements, and to arrange that all procedures leading to periodical certification of accounts are related to that date; in this way, delays for technical reasons between certification and payment could be eliminated, and the period stipulated for honouring certificates in the conditions of contract need never exceed the fourteen days recommended in the R.I.B.A. form and might even be reduced. The preparation by the contractor, on appointment, of a forecast of the probable rate of expenditure, greatly assists clients in preparing forward budgets and facilitating payments; this is sometimes done and might usefully become common practice.
- (b) On occasions, certificates are not honoured because a single item is in dispute. In such cases, payment of the undisputed items should take place at once, leaving only those disputed to be held back.
- (c) By the time a certificate is honoured—even when delays do not take place—the amount of work done and forming the basis of the payment has already been materially exceeded by the completion of further work. In the knowledge that appropriate safeguards against over-payment have been devised, we consider that detailed valuations might be made a good deal less frequently than they are at present; and periodic payments made (as is done by some clients already) on approximate assessments which can be adjusted by exact valuation at, say, quarterly intervals. In many cases a procedure for payment, at fixed intervals and of stated amounts, could be agreed on an analysis of the bills of quantities before the contract is signed.

9.6. These practices, which we commend, are not new, but they and others like them are not in wide enough use. Prompt payment for work done is of such importance and all concerned are ~~so~~ sensitive to delay that the industry generally must be willing to make use of procedures which will ensure that contractual obligations are met promptly and that there is no impediment to the proper flow of money.

Public authorities etc.

9.7. A number of witnesses have told us that many public authorities and other large organisations are dilatory in their payments during the course of work and particularly when final accounts are settled. Some authorities, in addition to the normal certificate issued by the professional officer in charge of the work, also insist on prepayment audit procedures which cover the same ground as that already covered by professional officers. Clearly, public funds

must be safeguarded, but public authorities should make use of procedures which, while doing this, nevertheless comply with the contracts into which they have entered. This may often mean that local authorities, and other public bodies, must be prepared to delegate to responsible officials or other specified persons the authority to make interim payments at the specified times. It is the responsibility of these authorities to adjust their own administrative arrangements to the time table laid down by the contract and failure to do so is no justification for withholding payments lawfully due. In the long run failure to make payments at the agreed date must increase the cost of work.

Materials in off-site factories etc.

9.8. One further point deserves mention in connection with interim payments. The existence of manufactured sections and components for incorporation into buildings is not at present taken into account in assessing monthly payments for materials not yet incorporated into the work unless the materials and components are actually on the site. The construction of building components in off-site factories is an important factor in the industrialisation of the industry, and is to be encouraged. How is the cost of these components to be financed? Are they to be taken into account in interim payments and if so, how, or should the cost be borne by the industries concerned in accordance with normal commercial practice? Government departments have found it possible in special cases to make interim payments for materials not yet on site and in such cases the contractor provides a certificate of indemnity. The construction industry must itself solve this problem, but we prefer procedures which will not still further complicate contractual arrangements which are already in need of simplification.

Retention moneys

9.9. As we have said, the purpose of the retention fund is to encourage the contractor to honour his obligations during and after the completion of the works, and to provide some insurance to the client against his failure to do so. The R.I.B.A. conditions of contract provide that the percentage of certified value retained should not normally exceed 10 per cent up to an amount not normally exceeding 5 per cent of the contract sum; the Government form CCC/Wks/1, on the other hand, provides, in all but the smaller contracts, for 5 per cent to be withheld from payments until a total fund of 3 per cent of the contract sum has been accumulated.

9.10. Although the risk of default during the progress of the contract cannot be entirely eliminated, the adoption of selective tendering should ensure that, as a general rule, contractors will be financially and technically sound. The risk of serious default having been thus minimised, the need for a substantial retention fund is reduced. Similarly, prompt payment on certificates and the measures aimed at a more rapid flow of finance, which we have recommended, should minimise the risk of financial difficulty. We consider that where selective tendering is used, the lower retention fund specified in the Government conditions of contract is to be preferred.

9.11. We would see this carried even further. Where sensible methods of selecting contractors are used, the entire elimination of retention moneys could in our view be accomplished without any unreasonable risk and might well lead to a reduction in tender prices. We have no evidence to show whether or not

this would be the result but consider that the time has come for a controlled experiment in which alternative tenders might be invited for selected contracts with or without retentions. Government departments, having regard to the extent of the work they offer to contractors, could carry out such an experiment with the least risk and we should like to see this undertaken and the results made public.

Maintenance guarantee bonds

9.12. Maintenance guarantee bonds in relation to the early release of retention moneys were discussed in the Seal report on Retention Moneys on Building and Civil Engineering Contracts which was published in 1954* and the conclusion of that report on this topic was that where retention funds are in any event held at low levels—and the level regarded as a maximum by the R.I.B.A. today was then regarded as low—such bonds offer little advantage either to contractor or client. We see no reason to dissent from this view, and consider that although exceptions may prove worthwhile in individual cases, guarantees against failure to honour defects liabilities should in present circumstances be provided by retention moneys.

Performance bonds

9.13. We have already expressed our strong preference for selective as against open tendering; and its more general adoption and proper operation should render performance bonds unnecessary. These bonds are still used by some local authorities who resort to open tendering; they add to the cost of works, since the client pays the premium, and it can be said that their use in these circumstances serves to demonstrate the client's recognition of the uncertain nature of the choice of a contractor by open tendering. We accept the fact that open tendering will continue to exist here and there and that performance bonds may be appropriate in such circumstances, but we do not recommend their wider use and support the view expressed in the Seal report.

Tender bonds

9.14. Tender bonds are taken out by tenderers and held by the client; they become forfeit if a tenderer withdraws his tender within a given period after submitting it, the intention being to penalise the tenderer who, having submitted a tender and decided for one reason or another not to undertake the work, withdraws the tender to the inconvenience of the client.

9.15. Tenders, are, of course, binding in Scotland as soon as submitted, so that the need for bonds of this kind cannot arise. In England and Wales we doubt whether there is a real need for them, since we have no evidence that withdrawal of submitted tenders is practised on any significant scale. It is not impossible, however, that the growing pressure on the construction industries might lead to an increase in such practices, and if this were to happen tender bonds might constitute a useful deterrent.

9.16. Alternatively, provisions can be inserted into tender documents to provide that, in exchange for a consideration, tenders submitted will be irrevocable for a set period; and the bodies concerned with new forms of conditions may care to give thought to the possibility of a standard clause of this kind.

*H.M.S.O., Price 6d.

9.17. The intense pressure which has been brought to bear on both private and public authorities in recent years to speed production (of houses in particular, but also of other types of building) has led us to consider whether incentives should be offered to contractors for early completion.

9.18. In general, the planning of any building project should be undertaken with a timetable as well as a cost limit in mind from the moment when the client first begins to formulate his ideas. The architect will know what his client requires, will decide upon the type of contract to achieve this object and fix the date of completion accordingly.

9.19. There are dangers—of skimping and the like—in offering direct incentives for rapid work and their elimination may call for increased supervision; but if clients are aware of their existence and take the appropriate steps to deal with them a contract with an incentive may be appropriate in certain cases, particularly when time is of great importance. There is no reason why large contracts for housing, for example, should not be split into sections, completion of each section being called for by a certain date, to which bonuses are attached. Two examples of ways in which this can be done are as follows:—

- (a) The contract or specification can provide that a bonus of a given amount will be paid to the contractor if described works are completed by a certain date; the described works can be the completion of the entire job or the completion of certain sections of it. The bonus can be reduced by a certain percentage for each day by which the contractor fails to meet his target, with no bonus when a time calculated in accordance with the circumstances of the individual contract has elapsed without completion being achieved.
- (b) A date is set for completion, and a daily bonus is paid for each calendar day by which the actual completion date precedes the set date up to a maximum specified in the contract.

9.20. Arrangements on these lines have been adopted in practice, and in the cases which have come to our knowledge, some of the arguments about the responsibility for delays which may have led to the failure of the contractor to qualify for a bonus have been avoided by the stipulation that bonuses are based on a fixed date and that no extension of time through, for example, inclement weather will be permitted; if this kind of risk is clearly understood from the outset, the tenderer takes it into account and makes provision accordingly.

9.21. If this type of contract is to be advantageous it must be adhered to strictly. The contractor must accept it with all the risks, including weather, and the client must settle all his requirements before the work starts, adhere to his obligations promptly and refrain from variations. It is for the client to decide for himself whether methods such as this will give him what he wants at a price he is willing to pay. If his requirements are made known at the start and are accepted by the contractor as a fixed target, then the desired results can be achieved.

9.22. In practice, to rely on a claim of liquidated damages is found to be of little value to the client, whereas the loss of a bonus through failure to attain a target date is in itself a considerable penalty to a contractor.

Scotland

10.1. At a number of points in our Report we have made reference to the special requirements of the law of Scotland or to significant differences in practice between Scotland and England and Wales.

10.2. Practices do of course differ, and the differences are described and discussed in detail in the Report, recently published, of the Working Party which was set up by the Minister of Public Building and Works in October 1962 to enquire into them. Nevertheless, we wish to emphasise most strongly that on every matter of principle which we have discussed—public accountability, competition, unification of contract conditions, the concept of the team, and the rest—our conclusions apply with equal force to Scotland.

10.3. We are quite sure that steps must be taken, in the interests of the efficiency of the construction industry throughout the country, to eliminate divergences of practice wherever it is possible to do so. For this reason, we trust that Scottish interests will be represented in the consultations which we hope will take place within the industries on the recommendations we have made in this Report.

Summary of Conclusions and Recommendations

Chapter 1—General Observations

The Minister of Public Building and Works should confer with the industry to co-ordinate and encourage efforts aimed at promoting good modern practices. Government financial help is needed to secure adequate secretarial and expert support (paragraphs 1.6-7).

Chapter 2—The Team in Design and Construction

- (a) Those who spend money on construction work seldom give enough attention at the start to defining their own requirements and preparing a programme of events for meeting them. Insufficient regard is paid to the importance of time and its proper use (paragraphs 2.2-3).
- (b) Work of any kind, however small, should be carried out to a recognised standard (paragraph 2.4).
- (c) As the complexity of construction work increases, the need to form a design team at the outset, with all those participating in the design as full members, becomes vital. Design and construction are no longer two separate fields, and there are occasions on which the main contractor should join the team at an early stage (paragraphs 2.5-6).
- (d) Restrictions on the activities of members of the professional institutions need re-examination (paragraph 2.7).
- (e) The relationship between those responsible for design and those who actually build must be improved through common education. Much more attention should be given to the training of site agents (paragraphs 2.8-10).

Chapter 3—Appointing the Contractor

- (a) Open competition, though widely criticised, remains in use. Competition will play its part more effectively if there is some measure of selection before tenders are invited; and there will be occasions when competition may appropriately be limited further or even eliminated altogether (paragraph 3.2).
- (b) We agree with the Simon Committee and many other Committees and Working Parties in recommending selective tendering, and our conclusion on this matter applies to small works as well as large, to civil engineering and building works alike (paragraphs 3.3-6).
- (c) Selective tendering has not been adopted as widely in the local authority field as elsewhere. Impediments should be removed, and rules for the conduct of selective tendering drawn up for the guidance of local authorities large and small (paragraphs 3.7-12 and Appendix III).

- (d) The use of unorthodox methods where appropriate has advantages which should not be lost to members of the public sector through rigid adherence to outmoded procedures (paragraphs 3.13-15).
- (e) The programming of work, carried out by means of serial tenders, offers great possibilities for continuity of employment, the development of experienced production teams, etc.; and the banding together of those who have suitable work in prospect is to be encouraged (paragraphs 3.16-19).
- (f) Construction work must be enabled to benefit from standardisation and industrialisation (paragraph 3.20).
- (g) Negotiated contracts need not be rigidly excluded in the public field; methods of contracting should be examined for the value of the solutions they offer to problems rather than for their orthodoxy (paragraphs 3.21-23).

Chapter 4—Some Notes on Procedures

- (a) The approved list should be compiled following public advertisement and contractors not included in it should be invited at intervals to apply. The conditions of entry should not be such as to discourage admission of new and growing firms. Unsatisfactory firms should be removed from the list (paragraphs 4.2-3).
- (b) Where no formal approved list is maintained, selection can be achieved by means of advertisement of the intention to invite tenders, the short list being chosen from among those applying for permission to tender (paragraph 4.4).
- (c) The period allowed for the submission of tenders must be adequate for the type of project concerned (paragraphs 4.8-9).
- (d) The submission of a feasible alternative scheme by a tenderer should not be ruled out simply on the ground that to admit such an offer would cut across the principle of parity of tendering (paragraph 4.10).
- (e) The results of competitions should be notified promptly, and all tenders should be accompanied by priced bills of quantities. Once the contract has been let, all tenderers should receive lists of the firms submitting tenders and of prices submitted (paragraphs 4.11-13).
- (f) Adequate time must be allowed between the appointment of the contractor and the commencement of work on site (paragraphs 4.14-15).
- (g) Where public funds are concerned, approval to proceed should be given at the earliest possible stage, and reference back to Government departments should not be required except where estimates are exceeded by a given percentage. Similarly, funds for public projects must be made available on the basis of a programme over a period of years (paragraphs 4.16-18).
- (h) A single comprehensive code covering all the standards relating to the construction of buildings over the whole country is required, and the necessary legislation should be introduced (paragraphs 4.19-23).

Chapter 5—Conditions of Contract

- (a) A common form of contract for all construction work, covering England, Scotland and Wales, is both desirable and practicable. As a

first step, the differences which appear in the various standard conditions for building work and civil engineering work respectively should be examined by all those concerned, including Government departments, in order to produce one set of standard conditions for each. The special requirements of Scottish law or of public bodies should be met by agreed additions or alternatives rather than by separate sets of conditions. Once this has been achieved, a joint form for all construction work should be negotiated (paragraphs 5.2-4).

- (b) The standardisation of subcontract conditions should follow that of main contract conditions (paragraph 5.5).
- (c) Representatives of clients and builders should publicise and encourage the use of standard conditions for small private works, which lay down the rights and obligations of both sides (paragraph 5.6).

Chapter 6—Bills of Quantities

- (a) Bills of quantities are essential in the tendering process. Although some simplification is possible, significant progress will only take place when really adequate supporting information in the form of drawings and specifications is provided to tenderers as a matter of course. Some modifications in order to render the form of bills of quantities more convenient for builders' own purposes may also be desirable (paragraphs 6.3-4).
- (b) The quantity surveyor should be regarded as the "economist" of the modern construction industry. The information gathered for the primary purpose of compiling bills of quantities is the basic material from which cost planning and analysis can develop, and none of this information should be put aside until its value for these purposes has been extracted. The proper use of cost information has a great part to play in eliminating uncertainty from the process of decision-taking in construction matters. We welcome the steps taken by the Royal Institution of Chartered Surveyors to examine these developments and hope that they will consult others interested at an early stage (paragraphs 6.5-9).

Chapter 7—Sub-Contractors

- (a) Sub-contractors must be closely integrated into the building team from the moment they are appointed (paragraph 7.2).
- (b) As a general principle, the main contractor should be responsible for the appointment of his sub-contractors, but there are occasions when nomination of sub-contractors by the client or his advisers is right. Provisional sums and prime cost sums should not be inserted in bills of quantities merely on account of incomplete knowledge of requirements (paragraphs 7.3-5).
- (c) If early nomination of a considerable proportion of the specialists involved in a project is considered necessary, then the main contractor himself should join the team early (paragraph 7.6).
- (d) Main contractors should apply to the selection of sub-contractors the same standards of fairness which they expect when they themselves are chosen (paragraphs 7.7-8).

- (e) The approval of the architect should be required to labour-only sub-contracting as to other forms of sub-contracting (paragraph 7.9).
- (f) At the time of invitation to tender, sub-contractors must know under what contract conditions they will be called upon to work; if nominated before appointment of the main contractor, then the main contract must stipulate the conditions under which sub-contractors are to be employed. Standard forms of tender and sub-contract are favoured (paragraphs 7.12-13).
- (g) Sub-contractors should not be expected to start work without a reasonable period for preparation (paragraph 7.15).
- (h) We hope that architects and engineers will exercise their right in the main contractor's default to certify for direct payment when appropriate (paragraph 7.17).
- (i) The organisations representing specialist sub-contractors should be granted full membership of the national consultative bodies which exist in the industry (paragraph 7.18).

Chapter 8—Firm Price Contracts

- (a) Schemes must be settled in their critical details before firm price, fixed period quotations are sought (paragraph 8.3).
- (b) Two years is not an excessive period for the duration of firm price contracts; the period during which tenders will remain open should be limited and clearly stated (paragraphs 8.4-5).
- (c) The nationalised industries, merchants and materials manufacturers and suppliers should quote firm prices for delivery within a reasonable period (paragraphs 8.6-7).

Chapter 9—Payments, Retentions and Incentives

- (a) Valuation, certification and payments during the progress of work are sometimes late, and these delays are commonly passed on to sub-contractors; contract conditions should be scrupulously honoured. We suggest improvements which may assist the flow of money (paragraphs 9.2-6).
- (b) Public authorities and other large organisations should not permit payments due under the terms of their contracts to be delayed by administrative procedures; these should be so arranged as to permit obligations to be honoured (paragraph 9.7).
- (c) Payment for components and materials made in off-site factories presents problems which merit attention by the industry itself (paragraphs 9.8).
- (d) Where selective tendering is used, the levels of retentions prescribed in the current Government conditions of contract should also be adopted in the private field. We also recommend an experiment in which tenders might be invited on alternative bases, with or without retentions; the results of such an experiment should be made public (paragraphs 9.10-11).

- (e) We do not recommend the general use of maintenance, performance or tender bonds (paragraphs 9.12-16).
- (f) We see no reason to oppose the use of direct bonuses; the loss of a bonus is a more effective penalty than a liquidated damages clause (paragraphs 9.17-22).

Chapter 10—Scotland

Despite differences in practice between Scotland and the rest of Great Britain, our main conclusions on matters of principle apply equally to both. Scottish organisations should be represented in discussions on their implementation.

Appendix I

QUESTIONNAIRE

- 1. New Techniques and their effect on the Organisation of the Construction Industries**
 - (a) Are the development of new techniques and changes in organisation being held back by the use of obsolete contractual practices?
 - (b) If so, where in particular do you consider the fault to lie and what should be done to improve the flexibility of these industries?
 - (c) The contractual methods used seem to differ between the Building and Civil Engineering Industries. Are these divergences justified, and do they contribute anything to the efficiency of either section or to the quality of service to the client?
- 2. Tendering Procedure**
 - (a) Which system of tendering do you prefer; selective or open? It would be helpful if you could give your reasons.
 - (b) Is there a case for restricting permission to submit tenders to firms fulfilling certain financial and other requirements?
 - (c) Is there any room for improvement in the timing or other procedures for inviting and opening tenders and for notifying decisions?
- 3. Bills of Quantities and Specifications**
 - (a) Bills of Quantities are not universally used outside the United Kingdom:
 - (i) Are the Bills in use in the United Kingdom too complicated? If so, in what ways would you suggest that they might be simplified?
 - (ii) Do you consider there is any figure of expenditure above which Bills of Quantities are essential? If so, what do you consider this to be?
 - (iii) Are Bills of Quantities essential for negotiated and other forms of contract?
 - (iv) Are Bills of Quantities essential for all types of construction work? If the answer is in the negative, please qualify.
 - (b) What do you conceive to be the function of the Specification and what should it contain?
- 4. Contractual Practices**
 - (a) *Firm Price Contracts let by Competitive Tender*
 - (i) What is your experience of the benefits and/or difficulties resulting from the adoption of this method?
 - (ii) In such contracts, are full planning in advance and limitation of contract period properly applied?
 - (iii) Is there any difficulty in obtaining quotations from sub-contractors and suppliers on a firm price basis?
 - (b) *Price Variation Clauses*
To what extent, if at all, do you consider the use of price variation clauses justified?

(c) *Other Systems*

In what circumstances do you consider the use of the following methods either apt or unsuitable:—

- (i) Serial contracting, viz., the invitation of tenders for one job where others of a similar type are to follow, on the understanding that contracts for these will be let on similar terms to the same contractor.
- (ii) The negotiated contract, viz., a contract placed with a selected firm without competitive tenders being invited.
- (iii) The Package Deal, viz., a contractor providing a comprehensive "Design and Build" service.
- (iv) Any other systems of which you may have knowledge or experience?

(d) It has been said that "competition avoids any question of favouritism or of encouraging monopoly and also has the healthy effect of promoting efficiency and economy".

Is the achievement of any of these aims likely to be impeded by the use of any of the methods mentioned under (c) above?

(e) If practices involving the limitation or elimination of competition were adopted in the public sector, would it be necessary in the light of public accountability, for special measures to be taken in order to demonstrate that the public had obtained the best possible results, and that the claims of all qualified and available contractors had been given reasonable consideration?

5. *Contract Forms*

- (a) Is the use of a common form for both building and civil engineering contracts desirable and/or practicable? If so, should the same common form be used for work in both the public and private sectors?
- (b) Do you consider that provision should be made in the standard forms of contract to encourage pre-planning and the restriction of variations?
- (c) Efforts to make use of standard forms of sub-contract do not seem to have been altogether successful. Why not?

6. *Management of the Job*

- (a) What are your views on the effectiveness of management and supervision on and off the site?
- (b) Do you consider that the way in which sub-contracts are generally let and controlled is conducive to efficient site organisation and job management?
- (c) The need for full pre-planning of his scheme by the client is often stressed. Are clients or their technical and professional advisers generally sufficiently aware of this, and does the contractor need to learn more about the pre-planning of his job and its organisation on the site?

7. *Consultation and Communication*

(a) *During design*

Do you consider that there is sufficient consultation and co-ordination between the Architect or Civil Engineer and the various consultants, e.g. Quantity Surveyor, Structural Engineer, Mechanical and Electrical Engineer, at the design stage of a large project? If not, can you suggest in what ways this might be improved?

(b) *Designer and Contractor*

The Emmerson Report stated "in building there is all too often a lack of confidence between the Architect and Builder amounting at its worst to distrust and mutual recrimination. Even at their best, relations are affected by an aloofness which cannot make for efficiency, and the building owner suffers. In no other industry is the responsibility for design so far removed from the responsibility for production."

Do you consider that this criticism is justified in relation to building and to civil engineering schemes, and in what way do you think the problems which arise can be overcome in order to promote greater efficiency?

(c) *Specialist Services and Sub-Contracts*

The Emmerson Report pointed out (in paragraph 35) that although Government Departments had reduced prime cost items to a minimum, other building owners had increased the amount of nominated sub-contracting.

- (i) Why does this divergence of practice exist; and which practice do you consider preferable?
- (ii) In the light of the present trend toward more specialist sub-contracting, do you consider that there is sufficient co-ordination of services at the most appropriate time? If not, in what ways might co-ordination be improved?
- (iii) Are further steps necessary to safeguard the financial interests of either main contractors or sub-contractors?
- (iv) Is there any case for direct contracts between the client and specialist firms?

8. *Finance of Contracts*

(a) *Performance Bonds*

- (i) What are your views on the use of performance bonds; and on the amount, as a percentage of the contract, of such a bond?
- (ii) Do you consider that an increase in the amount of a performance bond (bonds for 25 per cent and above are common practice in the U.S.A.) would be beneficial in ensuring that the work was completed in time without extra cost to the client and with the required standard of workmanship?
- (iii) Should the amount of the retention moneys (see Question 8 (d) (ii) below) be reduced with an increase in the value of a performance bond?

(b) *Advances for Constructional Plant, etc.*

Do you consider the final cost of work would be reduced if advances were made to contractors for the purchase of constructional plant or for other purposes on the larger contracts, with due safeguards?

(c) *Bonuses and Penalties*

- (i) Are you in favour of either a bonus or a penalty tied to the completion date of a contract?
- (ii) What has been your experience of the enforcement of a penalty clause?

(d) *Retention Moneys*

- (i) What is your present practice or experience as to the amount of retention moneys during construction and during the maintenance period?
- (ii) Would you be in favour of reducing the amount of retention moneys and, if so, what method of safeguarding the client's interests would you suggest?

(See question under Performance Bonds—Item 8; (a) (iii) above.)

(e) *Final Accounts*

Does settlement commonly take too long; if so, what are the reasons for the delays and can you suggest how improvement could be secured?

(f) *Claims*

Are there too many claims, and if so, why? How could these be avoided?

9. Implementation of Recommendations

Recommendations made by a number of Committees, such as the Simon Committee, have been widely accepted in principle over the years but not wholly adopted in practice. In paragraph 40 of his Report on Problems before the Construction Industries, Sir Harold Emmerson said in this connection that "experience shows that exhortation is not enough". What more, in your opinion, could be done?

Lambeth Bridge House, S.E.1

January, 1963

Appendix II

List of Persons and Organisations who submitted written Evidence

Admiralty
Air Ministry
Arup, Ove & Partners
Asphalt Roads Association, Ltd.
Association of Consulting Engineers
Association of County Councils in Scotland
Association of Municipal Corporations
Association of Supervising Electrical Engineers

Barclays Bank Ltd.
Bath and Portland Group, Ltd.
Biggs, Mr. J. S. S.
Blackmore, Alfred & Co. Ltd.
Bolton, Borough of
Booth Ledeboer & Pinckheard
British Constructional Steelwork Association
British Railways Board
Brunton, Baden Hellard & Boobyer
Building & Construction Co. Ltd.
Building Research Station, D.S.I.R.
Brydon Construction Co. Ltd.

Caffin & Co. Ltd.
Central Electricity Generating Board
Charlesworth, Mr. R. F.
Committee of Associations of Specialist Engineering Contractors
Computaquants Ltd.
Concrete Services Ltd. with Conspan Ltd.
Convention of Royal Burghs (member authorities of)
County Councils Association
Credit Insurance Association, Ltd.

Distillers Company Ltd.
Dock & Harbour Authorities Association
Dorman Long (Bridge & Engineering) Ltd.
Dwelly, Mr. M. J.

Edinburgh Corporation
Escritt, Mr. L. B.

Federated Employers' Insurance Association Ltd.
Federation of Associations of Specialists & Sub-Contractors
Federation of Associations of Specialists & Sub-Contractors (Scottish Board)
Federation of Civil Engineering Contractors
Federation of Master Builders
Federation of Painting Contractors
Forde, Mr. R. G. W.

Gas Council
Ginnings, Mr. A. T.
Glasgow Corporation
Gullen, Mr. A. G.

Halcrow, Sir William & Partners
Heating & Ventilating Research Association
Heating Investments Ltd.

Imperial Chemical Industries Ltd.
Industrial Estates Management Corporation for England
Industrial Estates Management Corporation for Wales
Institution of Civil Engineers
Institution of Electrical Engineers
Institution of Heating & Ventilating Engineers
Institution of Municipal Engineers
Institution of Public Health Engineers
Institute of Quantity Surveyors
Institution of Structural Engineers

Jepson, Mr. W. B.

Laing, John, Construction Ltd.
Lloyds Bank Ltd.
London County Council
London Master Builders Association
London Transport Board

McMaster, Mr. H. J.
Macnab & Co. (Flooring) Ltd.
Marriott, Robert Ltd.
Metal Window Association
Metropolitan Boroughs' Standing Joint Committee
Midland Bank Ltd.
Miller, Mr. A. R.
Ministry of Aviation
Ministry of Education
Ministry of Health
Ministry of Housing & Local Government
Ministry of Public Building and Works
Ministry of Transport
Mitchell Construction Co. Ltd.
Morgan, R. Travers & Partners
Morrison & Partners
Morton, Mr. G. W. J.

National Coal Board
National Engineering Laboratory
National Federation of Builders' & Plumbers' Merchants
National Federation of Building Trades Employers
National Federation of Building Trades Operatives
National Federation of Building Trades Operatives (Scotland)
National Federation of Master Painters of England & Wales
National Federation of Master Painters in Scotland
National Joint Consultative Committee of Architects, Quantity Surveyors & Builders
Nisbet, Mr. J.
Northcroft Neighbour & Nicholson

Parnasby, Mr. D. A.
Port of London Authority
Pressed Brick Makers' Association Ltd.
Prestressed Concrete Development Group
Prestressed Concrete Development Group, Scottish Council

Roy & Partners Ltd.
Royal Institute of British Architects
Royal Institution of Chartered Surveyors
Rural District Councils Association

Scottish National Building Trades Federation (Employers)
Scottish Building Trade Distributors' Liaison Committee
Scottish Development Department (on behalf of Scottish Departments)
Scottish Federation of Plumbers & Domestic Engineers' (Employers') Associations
Scottish Gas Board
Shell-Mex and B.P. Ltd.
Simms, W. J., Sons & Cooke Ltd.
Somerset County Council

Tynemouth, County Borough of

Unilever Limited
United Kingdom Atomic Energy Authority
University of St. Andrews
Urban District Councils Association

Wallis, G. E. & Sons
War Department
Waywarden Ltd.
Westminster Bank Ltd.

The following also gave oral evidence:—

Association of Municipal Corporations
Committee of Associations of Specialist Engineering Contractors
Federation of Associations of Specialists and Sub-Contractors
Sir Donald Gibson, C.B.E., D.C.L., F.R.I.B.A., M.T.P.I.
Ministry of Housing and Local Government
National Federation of Building Trades Employers
Royal Institute of British Architects
Royal Institution of Chartered Surveyors.

Appendix III

Selective Tendering : Correspondence between Committee Chairman and the Minister of Public Building and Works

27th June, 1963

Selective tendering has been used by your Ministry since 1939 as a suitable form of competitive tendering procedure for many kinds of building and construction work undertaken on the Ministry's behalf. The Simon Committee in 1944 recommended selective tendering as the most advantageous form of competitive tendering for building work, and this view has been supported in a number of subsequent reports by independent committees.

In spite of these views and decisions, it is clear to us from the evidence we have already received that, in the field of public expenditure controlled by Local Authorities, a bias in favour of open competitive tendering, of the type condemned by the Simon Committee, has continued to operate.

Having regard to the large programme of work involving public expenditure now in contemplation, and without anticipating the contents of our ultimate report to you, we consider as a Committee that in the public interest it is desirable that further steps should be taken by the Government Departments concerned to encourage Local Authorities to adopt the same practice in regard to tendering as that now used by your Ministry. We understand that this may mean the amendment of existing Standing Orders and Financial Regulations by individual Local Authorities and the possible consideration of a Code of Tendering Practice suitable for Local Government on the lines of the Code published by the National Joint Consultative Committee of Architects, Quantity Surveyors and Builders in 1959. These matters can well be settled in discussion between the Ministries concerned and the Associations of Local Authorities, and we believe that some steps in this direction have already been taken.

Talks of this nature are apt to be rather time consuming. If Local Authorities are to be given the advantage of this greater freedom in relation to the programme of work which confronts them, then a clear lead must be given by the Government Departments concerned and the discussions to which we have referred expedited. We are making you aware of our views on this particular question so as to avoid the possibility of further delay.

G. H. BANWELL.

The Rt. Hon. Geoffrey Rippon, M.P.,
Minister of Public Building and Works.

17th October, 1963

You may like to know what has been happening since, in answering a question in the House on 16th July, I published your letter of 27th June about selective tendering.

After preliminary discussions between the Government Departments concerned and informal consultation with the Secretaries of the local authority associations it has been agreed that the Ministry of Housing and Local Government will prepare revised Model Standing Orders on Contracts, in consultation with the associations. The new Model will give local authorities complete discretion to adopt selective tendering.

In addition, my Ministry will prepare a booklet on the procedures appropriate for selective tendering and on methods of preparing, using and maintaining approved lists of firms. This will be based not only on our own experience but on discussions we hope to have, through the good offices of the associations, with representative local authorities which already operate selective tendering.

The intention is to issue the new Model Standing Orders and the procedural booklet with a covering circular urging local authorities to adopt selective tendering more widely. We are aiming to do this by the end of the winter.

GEOFFREY RIPPON.

Sir Harold Banwell.

Building and Civil Engineering Contracts (Committee)

15. MR. C. PANNELL asked the Minister of Public Building and Works if he has yet received the report of the Committee under Sir Harold Banwell which is enquiring into the practices adopted for the placing and management of contracts for building and civil engineering projects.

MR. RIPPON : I have received an interim report in the form of a letter from the Chairman, Sir Harold Banwell, I will, with permission, circulate the full text in the OFFICIAL REPORT.

The interim report recommends the greater use of selective tendering by local authorities. The Government accepts the Committee's recommendations in principle and will immediately arrange further discussions with local authority associations.

Appendix IV

The Construction Industry : Some Enquiries and Reports 1944-64

Report

<i>Report</i>	<i>Published by</i>
The Placing and Management of Building Contracts (1944) : Report of the Central Council for Works and Buildings to the Minister of Works (The "Simon" Report)	H.M. Stationery Office.
Building (1950) : Report of a Working Party to the Minister of Works	H.M. Stationery Office.
Tendering Procedure (1954) : Report by a Joint Committee representing the R.I.B.A., the R.I.C.S., and the N.F.B.T.E.	The Joint Committee.
Retention Money on Building and Civil Engineering Contracts (1954) : Report of a Working Party to the Minister of Works	H.M. Stationery Office.
Building Contracts of Local Authorities (1958) : a Royal Institute of Public Administration Study	The Royal Institute of Public Administration.
A Code of Procedure for Selective Tendering (1959)	The National Joint Consultative Committee of Architects, Quantity Surveyors and Builders.
Survey of Problems before the Construction Industries (1962) : A Report prepared for the Minister of Works by Sir Harold Emmerson, G.C.B., K.C.V.O.	H.M. Stationery Office.
The Architect and His Office (1962) : Report of a Survey Team to the Royal Institute of British Architects	The Royal Institute of British Architects.
The Building Industry—1962 onwards (1962) : Survey Report commissioned by "The Builder"	The Builder, Ltd.
Competitive Tendering for Building Works in Scotland (1962)	Joint Standing Committee of Architects, Surveyors and Building Contractors in Scotland.
Communications in the Building Industry (1963) : Pilot study commissioned by the National Joint Consultative Committee of Architects, Quantity Surveyors and Builders	The National Joint Consultative Committee of Architects, Quantity Surveyors and Builders, and the Tavistock Institute of Human Relations.
Building Project Management ; a Guide to Procedure (1963)	The National Joint Consultative Committee of Architects, Quantity Surveyors and Builders.
Organisation and Practices for Building and Civil Engineering : Report of a Working Party on Building and Civil Engineering Procedure in Scotland to the Minister of Public Building and Works (1964)	H.M. Stationery Office.



MINISTRY OF PUBLIC BUILDING AND WORKS

The Placing and Management of Contracts for Building and Civil Engineering Work

Report of the Committee



LONDON
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1964
PRICE 3s. 6d. NET

Committee on the Placing and Management of Contracts for Building and Civil Engineering Work

(Appointed October, 1962)

CHAIRMAN : SIR HAROLD BANWELL

J. M. AUSTIN-SMITH, M.C., T.D., F.R.I.B.A., A.A.Dipl.	—Senior Partner, The Austin-Smith, Salmon, Lord Partnership ; Vice-President, Royal Institute of British Architects.
J. BARRATT, M.I.C.E.	—Director, Concrete Ltd.
J. BEDFORD, O.B.E.	—Chairman and Joint Managing Director, Debenham's Ltd.
A. BURNAND, F.R.I.C.S., F.I.Arb.	—Senior Partner, Harris and Porter, Chartered Quantity Surveyors ; Member, Quantity Surveyors' Committee, Royal Institution of Chartered Surveyors ; representative of R.I.C.S. on National Joint Consultative Committee of Architects, Quantity Surveyors and Builders.
S. CLINK, F.R.I.B.A., F.R.I.A.S.	—Partner, Cullen, Lochhead & Brown ; Council Member and Convener of Practice Committee, Royal Incorporation of Architects in Scotland ; Chairman, Joint Standing Committee of Architects, Surveyors and Building Contractors in Scotland ; Member, Council of the Glasgow Institute of Architects ; Member of Working Party on Building and Civil Engineering Procedure in Scotland.
A. J. HILL, B.Sc., M.I.C.E.	—Chairman, Taylor Woodrow Construction, Ltd. ; Vice-President, Council of the Federation of Civil Engineering Contractors.
A. R. MAIS, O.B.E., T.D., B.Sc., M.I.C.E., M.I.Struct.E.	—Chairman and Managing Director, Trollope & Co's Ltd. ; President, London Master Builders' Association ; Member, Executive and Council of the National Federation of Building Trades Employers.

T. A. L. PATON, C.M.G., B.Sc., M.I.C.E.	—Senior Partner, Sir Alexander Gibb and Partners ; Member, Council of the Institution of Civil Engineers ; Past Chairman, Association of Consulting Engineers.
A. R. PLOWMAN, C.B.E.	—Formerly Director of Contracts, Ministry of Public Building and Works.
H. J. O. WEAVER	—General Secretary, National Federation of Building Trades Operatives ; Member, National Consultative Council for the Building and Civil Engineering Industries, and of Building Research Board ; Operatives' Secretary, National Joint Council for the Building Industry.
Secretary : I. H. LIGHTMAN	—Ministry of Public Building and Works.

Mr. R. D. STEWART-BROWN, Q.C., who had been appointed a member of the Committee on its formation in October, 1962, died in October, 1963.

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To:—

The Rt. Hon. Geoffrey Rippon, M.P.,
Minister of Public Building and Works,
Lambeth Bridge House,
S.E.1.

Sir,

We were appointed by you in October 1962 and were given the following terms of reference:—

“ To consider the practices adopted for the placing and management of contracts for building and civil engineering work ; and to make recommendations with a view to promoting efficiency and economy ”.

At the outset we sought the views of a wide cross section of the construction industry. For this purpose we issued the questionnaire which is reproduced as Appendix I to our Report to a large number of public bodies, professional institutions, trade associations and individual firms and, through public advertisement, invited those who wished to do so to make representations to us. The response to our invitation was impressive both in quantity and quality. We received written submissions from 119 organisations and individuals ; these are listed in Appendix II, as are the eight groups and persons with whom we held discussions. We are grateful to them all, and also wish to express our warm thanks to the Ministry of Public Building and Works which has helped us with much information and advice. We also wish to record our deep regret at the death of one of our members, Mr. R. D. Stewart-Brown, Q.C., in October 1963 ; we have sadly missed him during the latter stages of our deliberations.

During the course of our inquiry we have met 30 times and submitted an interim Report to you, in the form of a letter dated 27th June, 1963 on the subject of selective tendering, with particular reference to local authorities ; this letter and your reply are reproduced as Appendix III to the Report.

We are greatly indebted to our Secretary, Mr. I. H. Lightman. Although having other duties to perform he has not spared himself in the work undertaken on our behalf. He has been an indefatigable worker, seeking and placing before us in a convenient form the information we have required from time to time. He has shown a marked ability to translate the great amount of information we

have received, and our resultant discussions, into documents of manageable proportions. This has greatly reduced our labours and without his efforts our task would have been much more burdensome. We have had the benefit also of the staff working with him and particularly his assistant Miss S. P. Stracey, who apart from recording our decisions and discussions was able to present the replies to our questionnaire in a form which although simple in itself made outstandingly clear the points of difficulty. We are grateful to them.

We now present our Report.

(Signed) G. H. BANWELL (*Chairman*)
 J. M. AUSTIN-SMITH
 J. BARRATT
 J. BEDFORD
 A. BURNAND
 S. CLINK
 A. J. HILL
 A. R. MAIS
 T. A. L. PATON
 A. R. PLOWMAN
 H. J. O. WEAVER

L. H. LIGHTMAN (*Secretary*)

25th March, 1964.